

## DEALING WITH RUSSIAN TACTICAL NUCLEAR WEAPONS

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### Cash for Kilotons

*Timothy D. Miller and Jeffrey A. Larsen*

**N**onstrategic nuclear weapons (NSNW) have posed serious military and political concerns for nearly two generations.<sup>1</sup> While many security analysts and the general public assumed that this issue disappeared with the end of the

*Mr. Miller is a senior analyst with Science Applications International Corporation (SAIC) in Arlington, Virginia. He is a retired Air Force lieutenant colonel and former ICBM operator who commanded U.S. portal monitoring facilities in Russia and Ukraine under the auspices of the START and INF treaties as a member of the On-Site Inspection Agency. He also worked issues for the Cooperative Threat Reduction program. He currently supports the development of nuclear and counterproliferation policy for the U.S. Air Force.*

*Dr. Larsen is a senior policy analyst with SAIC in Colorado Springs, Colorado. A retired Air Force lieutenant colonel, he was a pilot, Air Force Academy professor, and director of the U.S. Air Force Institute for National Security Studies. Since joining SAIC he has served as senior editor for the official Air Force studies of the air campaigns over Kosovo, Afghanistan, and Iraq, and led the effort to create a strategic vision for U.S. Northern Command. Dr. Larsen edited Controlling Non-Strategic Nuclear Weapons: Obstacles and Opportunities (2001), Arms Control: Cooperative Security in a Changing Environment (2002), and The Future of Nuclear Weapons in Europe (1992).*

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Cold War and the collapse of the Soviet Union, such was not the case. Indeed, one could argue that while strategic nuclear and conventional arms control treaties have resolved much of the central drama during the Cold War, there remains one area left uncovered by treaty constraints or reductions—the thousands of residual nonstrategic, theater, tactical, or battlefield nuclear weapons remaining on the territory of the former superpowers.

One expert on this subject has recently reminded us that “for fifty years non-strategic nuclear weapons have been the main source of the crises, accidents, and diplomatic *contretemps* associated with weapons of mass destruction. . . . In the complex world of the nuclear era, non-strategic nuclear weapons have produced more than their share of difficulty and danger.”<sup>2</sup> There are a number of reasons why this is so: the large numbers of these weapons, their multiple and varied missions, the lack of safety and surety controls when compared to strategic weapons, and their relationship to geographic location—a relationship that strategic nuclear warheads do not share.

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Historically, nuclear arms control has focused on long-range strategic systems, although Russia continually tried to include U.S. tactical weapons in such talks as well—a move that the United States always resisted. Only in recent years have the tables turned, with the United States now taking the lead on nuclear initiatives. During the Cold War the Soviet Union demanded that American nuclear weapons stationed in European NATO countries be considered strategic, because they could reach the Russian homeland; once negotiations began, however, the Soviets always conceded the case. Nevertheless, in 1991 and 1992 the presidents of the United States and Russia unilaterally decided to reduce their respective arsenals of NSNW, and in the Helsinki Summit of 1997 they agreed that future strategic nuclear arms control negotiations would include a separate venue for discussions surrounding the nonstrategic weapons of both sides.<sup>3</sup>

The first years of the new century have witnessed several headlines regarding strategic nuclear arms: the release of the U.S. Nuclear Posture Review, the successful elimination of thousands of nuclear warheads under the terms of the Strategic Arms Reduction Treaty (START), the American withdrawal from the Anti-Ballistic Missile Treaty, the signing of the Moscow Treaty, and the development of a new strategic relationship with Russia. Yet beneath all this movement in the strategic realm, the troubling issue of nonstrategic nuclear weapons has largely been ignored. The large imbalance in the numbers of NSNW possessed by Russia relative to NATO and the opacity of intentions this imbalance may represent create real concern among U.S. and alliance security decision makers. The lack of formal agreement between the new “partners” to address this remaining legacy of the Cold War makes this situation even more disconcerting. Yet Russia has indirectly promised to engage this issue—it has committed itself to embark on a path to new relations in the twenty-first century and to develop a relationship with the United States based on trust, openness, and cooperation.

Key to recent progress in the U.S.-Russian relationship has been a mutual understanding of the intentions of the partners toward one another. In Soviet days, intentions on both sides were clear—to oppose one another ideologically at every turn. Today that ideological opposition has disappeared. During the Cold War strategic nuclear weapons were the dominant concern of the parties because of the *direct* threat they represented. Nonstrategic nuclear weapons were of less interest in that environment. As the strategic threat has eased, the tension in the relationship has diminished as well. However, until the remaining vestiges of conflict represented by the tactical nuclear forces of the parties are resolved, it is difficult to see how nuclear tensions can ease much further. When it comes to nuclear weapons, policy should rest (to paraphrase former secretary of state George Shultz’s observations about the fundamental principles guiding the formation of national security) on *capabilities* of other states, not *intentions*. One

must believe that as NATO and Russia draw closer, the glaring imbalance in tactical nuclear forces will necessarily require some sort of dialogue. Otherwise it will be difficult to clear the way to other partnership goals. Without greater specificity about the size and composition of the Russian tactical nuclear stockpile, there is inadequate information to make an informed judgment about the veracity of Russia's intentions.

We believe that there is a way to achieve greater dialogue and cooperation in the matter of nonstrategic nuclear weapons. This article describes one possible solution to the problem of dealing with Russia's tactical nuclear arsenal—a plan that relies on direct purchase of Russia's weapons by the West and dismantlement of the warheads in Russia. We recognize this idea may be politically “radioactive” for some, but in the absence of alternatives it may represent a change of approach for which the time is right. Before going into the details of what we believe could be a win-win solution, however, we need to set the stage by reviewing the historical background of these weapons.

#### UNRESOLVED COLD WAR LEGACY

The United States first introduced nonstrategic, or tactical, nuclear weapons into the European dimension of the East-West conflict in 1953. Its nuclear stockpile in Europe eventually grew to some seven thousand warheads. It significantly reduced its tactical nuclear arsenal in late 1991 as part of the presidential nuclear initiatives (PNIs) that accompanied the end of the Cold War. These unilateral reductions led to the dismantlement of most U.S. nonstrategic nuclear weapons in Europe, in a move that was meant to communicate to Russia and others the American desire to decrease tensions and usher in the post-Cold War era. Russia reciprocated with its own PNIs. Unfortunately, over twelve years later the status of Russia's NSNW remains unclear. There are vague Russian claims that the stockpile has been reduced, but many questions remain about what “reduced” means. How many weapons are there really? Where are they located? What is their level of readiness, their viability? Are they secure from theft? Why does Russia still need so many of these weapons? On none of these issues has Russia been forthcoming. All are unanswered questions that lessen confidence in the fidelity of Russian claims. The ambiguity represented by Russia's stated willingness to reduce these nuclear weapons while refusing to engage in meaningful discussion on any of these questions is indeed troubling.

Over the years, for a variety of reasons, most strategic nuclear weapons have been covered by treaties between the United States and Russia. Tactical nuclear warheads, on the other hand, have been neglected in international negotiations. Ironically, success in strategic arms control has been so sweeping that the global balance of nuclear weapons has tilted dramatically in favor of unregulated

tactical weapons. Nonstrategic nuclear weapons are today more prominent than strategic warheads. For the most part, strategic nuclear weapons were postured to be employed promptly on an intercontinental basis. Shorter-range tactical weapons were meant for “battlefield” use; they typically took more time to prepare and were both lower in yield and shorter in range than strategic systems. Thus they appeared less threatening to the United States. Relative to the size of the strategic nuclear arsenal, their numbers and posture also made them less consequential in the strategic environment of the Cold War. Today, however, the situation having been reversed, thousands of strategic weapons are gone or going away as a result of the Strategic Arms Reduction Treaties and the Moscow Treaty; in contrast, NSNW reductions are not legally binding and are difficult to measure.

It has been argued that the George W. Bush administration “needs to place tactical nuclear weapons control at the top of the U.S.-Russian agenda” and that the “failure of arms control to address tactical nuclear weapons in a treaty belies the threat they pose.”<sup>4</sup> But this issue is extremely complex, and a way ahead is not easy to discern. Russia presumably does what it does for logical reasons, whether the United States understands them completely or not. Ambiguity in national policies associated with the presence and capability of nuclear weapons is not new. Ambiguity has been employed by all nuclear states in an effort to introduce uncertainty in the minds of would-be challengers. Nor is there any requirement for Russia to explain its actions. But if Russia is to be a genuine partner, more transparency regarding its nonstrategic nuclear arsenal and policies would help strengthen that relationship.

In November 2000 the U.S. Air Force convened a seminar to study this issue. Many of the West’s leading experts on the subject of nonstrategic nuclear weapons in Europe and Russia participated. Those experts estimated the current size of the Russian nonstrategic nuclear arsenal as between two thousand and fifteen thousand weapons.<sup>5</sup> This range was validated by draft language for the 2003 Department of Defense authorization bill, in which the Senate Armed Services Committee estimated that Russia had from seven to twelve thousand such warheads. The American inventory of tactical nuclear warheads is estimated to be less than twelve hundred. Of this total, multiple sources cite “a couple of hundred” U.S. gravity-drop bombs remaining in Europe, assigned to dual-capable NATO aircraft and stored in alliance facilities in theater, while the bulk of the remainder of these weapons is reportedly stored in the United States.<sup>6</sup>

Further complicating the picture is the fact that not all of Russia’s nuclear inventory is truly tactical in nature. Some of Russia’s weapons are quite large, upward of a megaton in yield, making them larger than many strategic nuclear weapons in either country. In addition, the range of delivery is determined not

by the weapon but by the delivery system. Since many weapons can be separated from delivery systems and easily mated to other means of delivery, range becomes fungible, and the distinction between strategic and tactical is moot. In today's new world order, as Russia and the United States struggle to reorient their Cold War military infrastructure, both place a higher premium on flexibility and interoperability of weapons and delivery systems rather than on size or numbers. As a result the terms "tactical" and "strategic" are practically meaningless.

One other subtle distinction is found in the rules for counting nuclear warheads. Often overlooked is the fact that the START, Intermediate-Range Nuclear Forces (INF), and Moscow Treaties only dealt with "offensive" weapons. Defensive nuclear weapons for use on antiballistic or surface-to-air missiles are uncounted by any arms control agreement. The United States no longer has that type of weapon, but Russia reportedly has over twelve hundred, many of them with large yields.<sup>7</sup>

The Defense Science Board explicitly recognized the difficulty of distinguishing strategic and tactical weapons in 1998. Its Task Force on Nuclear Deterrence recommended that future arms control efforts focus on dealing with deployable warheads and declared that they "must deal with important asymmetries in U.S.-Russian nuclear weapons infrastructures." This recommendation went farther than just recognizing the need to scrap the artificial distinctions between classes of nuclear weapons, suggesting that the Department of Defense address support infrastructure asymmetries related to production and refurbishment of warheads in both countries.<sup>8</sup>

## RECOGNIZING THE NEED FOR A WAY FORWARD

A clear understanding of today's environment is needed if this issue is to move forward to a satisfactory resolution. This understanding includes a better picture of the interests of the parties, exploration of appropriate solutions, identification of incentives and disincentives, and a willingness on the part of the parties to seek a path to resolution.

### *Do the Parties Want to Change the Situation?*

In 1997, Presidents William Clinton and Boris Yeltsin signed the Helsinki Agreement. This instrument laid the framework for START III negotiations and placed nonstrategic nuclear weapons at the forefront of future bilateral discussions. The new relationship between Russia and the United States developed further under Presidents George W. Bush and Vladimir Putin, as shown by the commitments expressed in the "Joint Declaration on the New Strategic Relationship between the United States of America and the Russian Federation."<sup>9</sup> When

this communiqué was released in early 2002 it appeared that the parties had agreed to discuss just about everything, including nonstrategic nuclear weapons.

During a press conference following the signature of the Strategic Offensive Reduction Treaty (the Moscow Treaty) in Russia in June 2002, Secretary of State Colin Powell responded to a question about the threat posed by Russian NSNW by acknowledging that indeed these weapons concerned him. He pointed out that Secretary of Defense Donald Rumsfeld had “made a particular point of urging the administration to pin down how the Russians are handling so-called ‘tactical’ nuclear weapons.”<sup>10</sup> During testimony to the Senate in July 2002 Secretary Rumsfeld himself argued the necessity to do something about the imbalance in tactical nuclear forces between Russia and the United States, indicating that even America’s European allies understood this need.<sup>11</sup> Clearly the U.S. government is interested in discussions on NSNW.

But no matter how seriously the United States wishes to engage the topic, if Russia is not willing to sit down and discuss the issue and possible solutions, nothing will happen. However, there may be indications of a changing Russian attitude. It was reported in April 2002 that the Kremlin intended to dismantle its tactical nuclear weapons and propose “unprecedented peace initiatives,” that “Russia intends to fulfill its unilateral obligations on tactical nuclear weapons reduction by 2004.”<sup>12</sup> Such evidence, in conjunction with statements in the Joint Declaration on the New Strategic Relationship, gives the impression that the bilateral relationship has changed enough to make the two countries truly partners, committed to open dialogue, to resolving their differences, and to getting along better. If all was as it appeared, the path to dealing with the Cold War’s nuclear leftovers would also be clear.

But on closer examination the Russian article in which the hopeful statements appeared also raised serious questions; in fact, it serves in itself as an example of the ambiguity facing the West. First, the source was the “Kremlin,” not a specific government official. Unclear too was what made this initiative so unprecedented, especially given President Yeltsin’s 1992 commitment. The article included the usual Russian linkage to U.S. nuclear weapons in Europe, stating that “in planning to dismantle its tactical warheads, [Russia] is merely asking Washington to return the nuclear weapons from NATO storage facilities in Europe to the United States.” Why, twelve years after the 1991–92 presidential nuclear initiatives, is Russia still “planning” to dismantle these weapons? For years Russia insisted it had complied with its obligations under the PNIs. Now we are told Russia is still in the planning stages and “merely” asking Washington to make compromises in return.

### *The Interests of the Parties*

The United States has two straightforward interests: adequate physical security for all of Russia's nuclear weapons, to avoid pilferage by and proliferation to unsavory characters opposed to Western interests; and improved transparency and understanding of Russia's nuclear intentions.

European NATO's interests are similar to those of the United States but are more pressing and direct given its proximity to Russia. Many of NATO's potential adversaries would gladly acquire a Russian nuclear device or fissile material. Since Russia's tactical nuclear weapons were originally built to counter NATO during the Cold War, and in particular to be used on battlefields in the European theater, it is easy to understand why many of the European members of NATO remain concerned about Russia's unwillingness to engage in discussions about these forces, reduce them, or clarify its intentions regarding them. On a positive note, the European NATO partners, judging by the comments made by Secretaries Powell and Rumsfeld and in NATO communiqués, are also interested in discussions on Russian nonstrategic nuclear weapons.<sup>13</sup>

Russia's interests are more difficult to discern. One obvious long-term goal is the removal of all U.S. nuclear weapons in NATO. These weapons have been a thorn in Russia's side since early in the Cold War. Without a quid pro quo on these weapons, in Russia's view, there is little incentive to deal. In addition, because Russia is compensating for conventional weakness with nuclear ambiguity, anything that constrains its remaining nuclear forces is most likely to be viewed as hurting its security. Again we see the value of ambiguity to nuclear deterrence; unfortunately, this ambiguity also hurts Russia's relationship with its new partners.

NATO's tactical nuclear arsenal was acquired to compensate for the Warsaw Pact's conventional advantage in the Cold War. Many Russians must wonder why these weapons remain in Europe even though the Warsaw Pact is long gone and some of its former members are now NATO partners themselves. In an ironic twist, the tables are turned—it is now Russia's nonstrategic nuclear arsenal that shores up its conventional weakness vis-à-vis NATO and other neighbors.

There is another subtle dynamic at work, particularly in Russia. When looking at Russia's security environment, many in the West fail to appreciate that the success of previous strategic arms control agreements may now be undercutting Russia's incentive to resolve the NSNW imbalance. Over the years, strategic arms control agreements have reduced Russia's ability to employ strategic forces to respond to threats on its southern front. For a country with eleven time zones, strategic weapons in the Far East can represent significant capabilities, useful in fending off hostile regional threats and bolstering national security by adding



uncertainty to an enemy's calculus. Past reductions in Russian strategic forces that could have been called into a regional fight have increased the value of Russia's tactical nuclear weapons. The outbreak of fundamental Islamic violence aimed at Russian interests makes even more understandable the value Russia assigns to unfettered tactical nuclear options, as well as its reluctance to engage this issue.

### ONE POSSIBLE SOLUTION: CASH FOR KILOTONS

What, then, can be done about Russian's large tactical nuclear arsenal? We propose a simple solution—cut a deal to buy the weapons outright. This bold move on the part of Western nations would reduce a serious threat, be in keeping with capitalist precepts of a free market economy, provide badly needed capital for Russia's economy, and enhance cooperative business relationships between members of the consortium formed for the purpose. At first blush, this suggestion may seem a little too far outside the box. However, as recently as 12 March 2003 Senator Richard Lugar and former senator Sam Nunn, the founders of the Nunn-Lugar Cooperative Threat Reduction (CTR) Program for the dismantlement of former Soviet nuclear weapons, called for a “reprioritization and acceleration of U.S. nuclear threat reduction programs.” Third on Senator Lugar's top-ten list of immediate priorities regarding Russian weapons of mass destruction was “doing something about tactical nuclear weapons.”<sup>14</sup> The senator's call came in conjunction with the publication of a thorough review of the CTR programs in Russia by a Harvard University group, the Project on Managing the Atom. This report, commissioned by the Nuclear Threat Initiative, calls on the United States to champion new initiatives to expedite elimination or control of nuclear materials in order to frustrate their potential use by terrorists. The Harvard team made specific reference in one recommendation to finding a way to deal with the present imbalance in tactical nuclear forces. Our proposal to buy these weapons would do just that.<sup>15</sup>

Historically, genuine arms control initiatives have been initiated by the West, including nearly all of the prescriptions to date for solving the NSNW imbalance. Arms control initiatives by the Soviets generally dovetailed with their grand strategy and were often meant to preserve whatever strategic advantage they held in the Cold War. Russia has offered virtually no suggestions to resolve the tactical nuclear situation, other than regularly repeating its call for the United States to pull its tactical nuclear weapons out of Europe.

For the most part, Western solutions have not been much more creative. Several participants in the U.S. Air Force's 2000 NSNW conference made proposals, but these predictably boiled down to arms control or an extension of Nunn-Lugar CTR programs currently in place. One recent monograph concludes that

Russia and the United States have little interest in entangling themselves in more arms control agreements. It suggests that all U.S. nuclear weapons be integrated into a “comprehensive posture”—something that may eventually alleviate artificial distinctions—and recommended “seeking engagement through other means aside from traditional arms control venues.”<sup>16</sup>

One reason why Moscow rarely offers either arms control or disarmament solutions is that much of the burden of elimination would fall on Russia. This is because Russia retains most of the world’s remaining Cold War nuclear forces, its predecessor state having invested more heavily than the West in the atom as the guarantor of national security in that period. Russian political and military planners are still heavily reliant on this investment today. To them, leaping into an arms control or CTR solution to regulate or reduce these forces probably appears to be an avoidable burden that would be counter to their national security interests.

We are not saying that arms control or CTR solutions are wrong or bad but that in the case of NSNW it is too soon to determine whether either would work, or whether some alternative exists. Arms control is typically used when a relationship is adversarial, when so little trust exists that the parties must negotiate rules governing their interaction. But the Moscow Treaty confirmed that today’s U.S.-Russia relationship is no longer so adversarial. Accordingly, an arms control treaty may not be the best option for dealing with nonstrategic nuclear weapons. Another fundamental feature of arms control is that it is designed to regulate militarily useful weapons so as to raise confidence and jointly reduce tensions. Not knowing what is militarily useful inside Russia’s NSNW stockpile makes arms control at this point unsatisfactory. Conversely, cooperative threat reduction is useful for dismantling excess and obsolete weapons but is the wrong tool for controlling militarily useful weapons. Without knowing what is excess in the Russian nonstrategic nuclear weapon stockpile, extending the Nunn-Lugar CTR program to *all* NSNW would be equally unrealistic. Until Russia is willing to put its entire stockpile on the table and inform NATO which warheads it wants to keep and which are excess to its needs, Western insistence on applying a standard solution merely for the sake of doing *something* will be a meaningless exercise, and one that will be resisted by Russia.

To be rational, nuclear force postures ought to be derived from national and military strategy goals, not from arms control or disarmament negotiations with other nations. If their political relationships truly have changed, the United States, Russia, and NATO should be able to work together to clarify which nuclear weapons fulfill strategy goals and which are excess. In the euphoria of the collapse of communism and the emergence of a free Russia, however, the United States unilaterally reduced its nonstrategic nuclear arsenal to such a low level

that it has little left to negotiate away on this issue. The West will need some sort of incentive to get Russia to the table. Since the United States and NATO have little in the way of further force cuts to offer—other than total removal of U.S. weapons in Europe—to induce Russia to clarify its tactical nuclear stockpile, some other enticement must be found or created. We suggest that the best enticement would be monetary—in the form of cash and debt relief.

Russia is working hard to reinvent itself as a free market economy and integrate itself in the economies of the world, and it will require massive amounts of hard currency to do this successfully. The members of NATO are among the wealthiest nations in the world and have a stake in seeing Russia succeed. Most in the West also acknowledge that Russia cannot clean up its nuclear past alone, that it will take large amounts of money—money Russia does not have.

### INGREDIENTS OF OUR PROPOSAL

If a way to buy excess Russian nuclear weapons can be found, three positive things could ultimately emerge: Moscow might be enticed to deal expeditiously with its NSNW; NATO, for which the process would be transparent, could see its proliferation concerns lessened; and Russia's economic transformation could be accelerated.

It appears the parties are able to identify courses of action that will not work—cooperative threat reduction, arms control, unilateral presidential nuclear initiatives—but unable to define one that will work. We believe a winning approach would be one that is multilateral, including NATO and Russia; one that respects the rights of sovereignty and self-determination (including unilateral determination of necessary force levels derived from national strategy goals); one that is transparent enough to reveal both capabilities and intentions; and one that provides incentives for Russia to move forward expeditiously. Our suggestion takes a little from arms control and a little from CTR, and mixes it all with financial carrots and old-fashioned market forces to get this process moving.

#### *A Role for the IAEA*

One key ingredient of a successful contract is a way to deal with distrust. For this we call for the inclusion of a third party, ideally the International Atomic Energy Agency (IAEA)—not as a party to the deal but as the implementer, the body that accepts custody of purchased weapons, demilitarizes them, and stores the fissile material until it is eventually blended into fuel or properly disposed of. We believe that a neutral third party, one that would not pose a military threat to either side, would enhance mutual confidence in a way that is critical to removing suspicion. The IAEA has no stake in the nuclear balance of power between the parties, thus making it an ideal organization to take possession of excess fissile material

from nonstrategic nuclear weapons. The IAEA has the expertise and a reputation for doing this type of work, and its costs could be covered through increases in existing funding mechanisms (or by a new approach proposed below).

Presumably the IAEA itself would perceive the value of its involvement in this scheme and acknowledge its unique capabilities and experience for handling such an assignment. Still, several questions about IAEA involvement must be addressed. Would it want this job? Could it do it effectively? Would the parties trust it to do this job with full transparency? The idea of placing nuclear weapon fissile material in an international “bank” for safekeeping and rendering for peaceful purposes is not new; President Dwight D. Eisenhower suggested it in his

Buying excess tactical nuclear weapons from Russia and converting them to reactor fuel would:

- Assure sovereignty rights and respect for national self-determination of the parties
- Place the NATO-Russian relationship on a new footing
- Employ the forces of a closed and regulated market to provide incentives that will enhance security and surety of these weapons
- Create a safe and secure regulated market for excess and obsolete weapons in a way that enables the parties to compare costs and work together
- Improve the security of all parties by quickly reducing the proliferation risks associated with “loose nukes”
- Share the heavy security burden of Russian nonstrategic nuclear weapons with a consortium of interested states
- Achieve enough transparency to suggest security measures to protect Russia’s remaining weapons from proliferation pressures
- Highlight for all parties the potential threats posed by nonstrategic nuclear weapons
- Infuse hard currency into Russia’s economy, thereby accelerating its market reforms and economic transformation.

famous “Atoms for Peace” speech in 1953, a speech that led to the birth of the IAEA.<sup>17</sup>

At the time, the international community did not allow Eisenhower’s far-reaching proposal to come to pass; it was primarily the objections of the Soviet Union that prevented this banking of fissile material by what became the IAEA. Now that the Soviet Union is gone, the world need not consider itself bound by this decision, as it is yet another vestige of the Cold War. Our proposal is neither as far-reaching as Eisenhower’s nor

as utopian in its intent. However, banking fissile material from excess nuclear weapons and rendering it harmless may represent a small step toward fulfilling President Eisenhower’s dream.

There is some question about whether the IAEA’s statute would permit it to take on this mission. As we read the document, however, the IAEA not only could do it but apparently would have no choice if asked to do so by NATO and Russia. In part, Article III of the IAEA statute states:

Part A. The Agency is authorized:

1. To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; and, if requested to do so,

to act as an intermediary for the purposes of securing the performance of services or the supplying of materials, equipment, or facilities by one member of the Agency for another; and to perform any operation or service useful in research on, or development or practical application of, atomic energy for peaceful purposes;

2. To make provision, in accordance with this Statute, for materials, services, equipment, and facilities to meet the needs of research on, and development and practical application of, atomic energy for peaceful purposes, including the production of electric power, with due consideration for the needs of the under-developed areas of the world; . . .

7. To acquire or establish any facilities, plant and equipment useful in carrying out its authorized functions, whenever the facilities, plant, and equipment otherwise available to it in the area concerned are inadequate or available only on terms it deems unsatisfactory.

Part B. In carrying out its functions, the Agency shall: . . .

2. Establish control over the use of special fissionable materials received by the Agency, in order to ensure that these materials are used only for peaceful purposes; . . .

Part C. In carrying out its functions, the Agency shall not make assistance to members subject to any political, economic, military, or other conditions incompatible with the provisions of this Statute.<sup>18</sup>

A request from NATO and Russia to accept fissile material from excess NSNW and store it until it could be safely converted to fuel or properly disposed of would, we believe, be a “practical application” in the sense of the subparagraphs of Article III. The IAEA would be obligated to act as an intermediary and acquire or establish the plants, facilities, and equipment necessary to safely secure and store weapons pits (the plutonium “triggers” at the center of a thermonuclear bomb, and hence the most critical piece) proffered by either party. Furthermore, the statute requires the IAEA to establish control over the pits until they can be used for peaceful purposes. When one considers that the leaderships of NATO and the IAEA are drawn largely from the same nations, it would seem that NATO, Russia, and the IAEA could agree on a procedure to make this happen.

Since its inception, the focus of the IAEA has been narrowed by the membership to the control of nuclear reactors for generation of power; however, this self-constraint appears to be changing. A recently published history of the agency notes that since the end of the Cold War the United States has already placed excess fissile material in IAEA storage and that Russia has committed itself to do the same.<sup>19</sup> It would seem that our proposal represents an opportunity to take this process one step farther and in so doing provide Russia and NATO an example showing that they can work together to trim their nuclear stockpiles without an arms control agreement.

There could be no question in the minds of NATO or Russian leaders that the IAEA was anything but an honest broker. Any agreement between the parties and the IAEA must clearly specify that the IAEA is not to “choose sides.” Dispute resolution must be left up to the parties and not involve the IAEA.

*Elements of a Deal: First Steps*

To begin this process, all parties must lay out all their holdings and sort the “wheat from the chaff,” in a way similar to an arms control baseline declaration, in strict confidentiality among the partners. Depending upon the demands of the parties, this declaration will likely need to be verified by a joint inventory. The parties could conduct a joint inventory themselves or ask an international organization to do the accounting. Here too the IAEA may be the best choice, since it presumably already has some grasp of the situation inside these states.

Once this baseline is established, both sides will identify weapons that are excess to security needs. This may be easy for NATO. Judging by the actions of the alliance in the past decade, U.S. tactical nuclear weapons assigned to NATO are all considered essential to the partners; otherwise, they would have been unilaterally withdrawn to the United States. However, it is impossible to guess the difficulty this selection would pose for Russia. We suspect that the Russian military already knows precisely what it wants to keep and therefore should be able to identify quickly what is excess and obsolete—should it wish to. The problem is that the diffusion of responsibility for Russian NSNW could cause individual commands to resist Moscow, potentially presenting a significant internal political challenge to Russia’s civilian leadership. The risk of turmoil could be an impediment to changing the status quo. A monetary incentive is specifically valuable here—were the West to provide hard currency that could be used to fund reform programs or improve service living conditions, the Russian military leadership might be won over. The reciprocal declaration would be made behind a veil of secrecy; the partners would gain security insights that could strengthen their partnership but would retain ambiguity vis-à-vis nonpartner states and other actors.

Even after this process was completed the tactical nuclear stockpiles would undoubtedly remain imbalanced in Russia’s favor, but at least the parties would know that all remaining weapons were considered militarily viable. That alone would represent a significant improvement over the current state of affairs. At this time the parties may wish to take the next step, addressing this imbalance and its meaning, possibly opening up an arms control dialogue. But that is an issue we leave for a future article.

### *Elements of a Deal: Money*

Obviously, the devil is in the details. We are speaking of a lot of money. When large amounts of money are involved the tendency is for some of it to get diverted to unproductive efforts, or for the parties to bog down in lengthy discussions about trivial issues—and time is the enemy of nonproliferation. To make this process work, the wealthy nations will need to pool their resources and create a closed market for these weapons. A new organization must be set up to oversee this operation, supervised by an executive committee similar to that of other international arrangements. This committee would be tasked by the parties to administer the financial dealings—setting the price for weapons, budgeting for operations, arbitrating disputes, regulating the fuel conversion, and so on. The logical choice would be the new NATO-Russia Council, established in May 2002 to seek out venues of cooperation on a variety of issues. A May 2003 U.S. State Department Fact Sheet detailing U.S. progress toward the disarmament goals of the Nuclear Non-Proliferation Treaty revealed that the United States and NATO had already undertaken NSNW-related confidence-building measures within the NATO-Russia Council.<sup>20</sup> The council chose to establish a separate working group to implement NSNW reductions through this initiative.

A Western consortium, under the guidance of the executive committee, would negotiate a fair price for excess Russian nuclear weapons on a per-kiloton-of-warhead yield basis. Linking price to a unit of measure for each weapon would make it possible to determine relative values. Weapon yield, however, is a very sensitive subject; a high degree of trust will be needed on both sides if it is not to be a “show stopper.” Notwithstanding, if the parties have truly become partners, they ought to be able to overcome this obstacle. The United States and Great Britain, for instance, have no difficulty discussing weapon yields.

In the early days of Intermediate-Range Nuclear Force and START negotiations there was significant apprehension in the Soviet Union about revealing the geographic coordinates of various nuclear facilities, which were state secrets, for fear this information would facilitate targeting. Yet today such data is routinely exchanged. In the area of weapon yield, it is doubtful that either side could really surprise the other. Most nuclear physicists can calculate a weapon’s yield, whether U.S. or Russian. Reluctance to exchange yield data, particularly when it would be afforded confidentiality among the parties, all of whom have ample understanding of weapon designs, is a surmountable problem. Furthermore, yield data would be exchanged only for weapons no longer considered necessary for military security.

If the parties are able to overcome objections to the use of yield to measure the value of weapons to be sold in this market, they should also be able to develop strategies to enhance nonproliferation goals in the process. Premiums

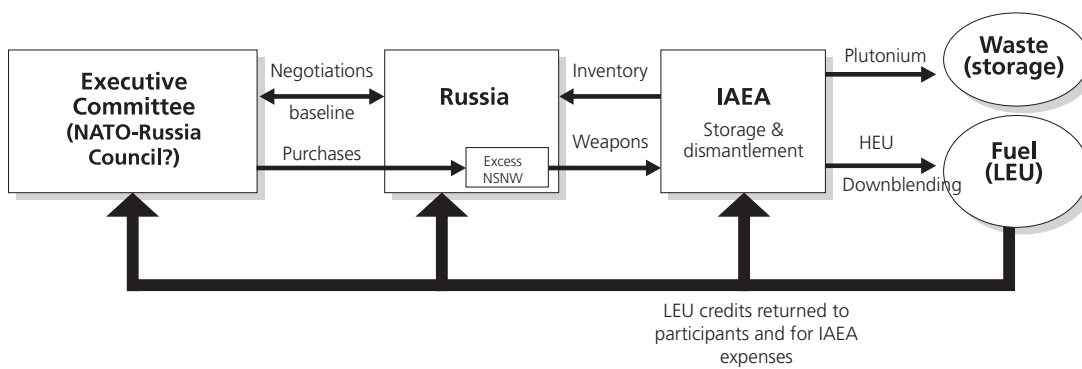


could be paid for certain weapons, for example, in addition to a straight price per kiloton of yield. Premiums could be offered for weapons with features of particular concern, such as older battlefield weapons lacking permissive-action links.

#### *Elements of a Deal: Dismantlement*

Weapons purchased would be secured immediately, dismantled, and demilitarized to reduce their proliferation value. Prior to turnover to the IAEA the owning party could perhaps remove an agreed critical component, such as a trigger. Demilitarization and dismantlement would be accomplished in a facility in Russia built by the consortium and operated by the IAEA. One aspect, however, must be very clear: once custody is transferred, the process is irreversible—there can be no returning of weapons from the bank to the parties. Once a weapon was secured, the IAEA would remove and destroy nonnuclear components; the fissile material could then be further demilitarized and eventually blended down into nuclear fuel. “Down-blending” could be done either on the premises of the new facility (again, with costs borne by the consortium) or at an existing Russian facility operating within the confines of the U.S.-Russian HEU (highly enriched uranium) Transparency Process. Ownership of the resulting low-enriched reactor fuel would be shared by the participating states in proportion to respective investment in the project, or sold into the legitimate nuclear fuel markets of the world to help defray the cost of operations. See the figure for a nominal representation of this process.

#### CASH FOR KILOTONS



This process could borrow heavily from current U.S. CTR programs. Once sold, secured, and demilitarized, the nuclear material would be converted to fuel, or in the case of plutonium, rendered safe before disposal inside Russia. For security and proliferation reasons as well as inventory control, it would be preferable that this be done inside the same facility as demilitarization and storage, in order to reduce proliferation and security risks. However, since Russia already



does uranium down-blending, a new facility for that purpose might be a waste of resources. An alternative could be an arrangement between this consortium and the existing HEU blending-transparency process of the CTR program to provide necessary transparency and ultimate elimination of these weapons.

#### *Elements of a Deal: LEU Credits*

Once blended down into fuel, the low-enriched uranium (LEU) could be credited back to the contributing nations, including Russia, in proportion to their contributions to the effort. The parties could take delivery of the fuel for their own power-generation needs, resell it on the open worldwide market to qualified nuclear-power operators, or trade the credits with other IAEA-approved parties. Effectively, these LEU energy credits could be managed in much the same way as commodities are traded in markets around the globe. For some nations the fuel would be a credit in the bank, while others may choose to take physical delivery.

One potential problem presents itself—if a large number of weapons were sold under this deal, the resulting fuel from down-blending could flood the market. To hedge against this, the rate of fuel conversion and sales could be controlled by the executive committee, acting much like a central banker. Unlike the initial buy and transfer of weapons, which would be conducted as rapidly as possible, the blending process and sale or credit back to members would be deliberately paced and regulated with an eye on fuel market prices.

Sovereignty issues associated with this facility may concern NATO, Russia, and the IAEA. However, these could be addressed by permitting Russian Ministry of Atomic Energy officials to visit the facility at any time or to establish a permanent observer presence inside the facility. As noted, the entire facility would be owned by the consortium and operated by the IAEA; the area inside its security fence would have diplomatic status akin to an embassy or a United Nations facility.

Labor for these operations would be hired by the IAEA. Presumably a significant portion of the staff would come from Russian nuclear experts the West would like to see employed on productive endeavors, vice dangerous alternatives. However, the parties could decide that labor could be drawn only from nations supporting the consortium.

#### *Negotiating the Deal*

The executive committee would establish an initial market price per unit yield for various classes of weapons, based on its budget; it would be up to the committee and Russia to negotiate from there. After a brief round of price negotiations, the committee would set a final figure; Russia's choice would be to take it or leave it. "Leaving it" would mean maintaining and securing the weapon

(already declared redundant) to Western standards to reduce the risk of proliferation.

This buying process would begin immediately after the parties agreed on the terms and could be completed fairly quickly. The total cost for a buy could be extremely large. Guaranteed payments could be distributed over a period of several years; all the weapons, however, would be transferred immediately, and additional incentives could be paid to accelerate the process. Were there delays in rendering weapons or payments, the price would change (in either direction) on a predetermined schedule. Russia, by virtue of its seat on the executive committee, would have an input into the entire process.

The price would be affected by the yield for each class of weapon previously set by the executive committee. Russia could be tempted to inflate declared yields to boost total cost; its assertions would have to be backed by empirical data. Nuclear experts from member nations, serving as technical representatives of the executive committee, would work closely with Russian nuclear scientists to review the supporting evidence. The executive committee would then certify the results, settle any disputes, and establish a yield for these weapons. Russia would be given one opportunity to appeal a yield determination by the committee.

However, both the yield for a class of weapons and the price per kiloton would have to have been established even before Russia made the determination of which weapons to keep and which to sell. In the case of viable weapons that may be excess to needs, Russian military planners and decision makers could thereby balance national security interests against the potential economic gain.

One final point about this market—it would be opened only by agreement of the parties and would remain open only as long as necessary to arrange a purchase. Once the weapons were transferred, the market would be closed. It would be up to the parties to manage this. All weapons could be considered in a single market session, or the market could open for particular categories of weapons, such as gravity-drop bombs. If sales proceeded at a brisk pace and the parties wished to draw down their force structures more quickly, the market could be reopened from time to time.

#### **WHY WOULD RUSSIA AGREE TO THIS?**

If it is a radical idea for the West to offer to buy nuclear weapons, it is equally bold for Russia to consider selling them. Traditionally Russia would have scoffed at the idea of selling weapons to a former enemy. Cash would be a poor incentive for any nation to compromise its security. However, Russia would be selling weapons that it, and it alone, had determined were no longer necessary. Furthermore, those weapons could represent a proliferation problem and a

national security risk to Russia if not properly protected and maintained. Therefore, it is likely Russia will come to the table and engage with NATO in this endeavor.<sup>21</sup>

### *Financing the Deal*

Members of the consortium would contribute funds. This proposal will cost billions of dollars, but the cost of the status quo is also very high. The Group of Eight industrialized nations has already offered Russia twenty billion dollars in assistance for arms reductions. However, there have been precious few initiatives to dispense these funds, and even fewer to use them to solve the nonstrategic nuclear weapons dilemma. In addition, there are other ways to “pay” Russia for these weapons, including trade in goods or services of value, or debt forgiveness.

A January 2002 article in *Arms Control Today* compared debt relief for nonproliferation to the “debt for nature swaps” begun in 1984.<sup>22</sup> It pointed out that debt relief has been offered in exchange for national security considerations on several previous occasions. In fact, the U.S. Congress passed the 2001 Debt Reduction for Nonproliferation Act with key bipartisan support from Senators Joseph Biden, Jessie Helms, and Richard Lugar. The United States could make debt forgiveness a condition for reaping rewards from the cash-for-kilotons program, thereby forestalling free-rider concerns that might arise.

### *Political Rewards*

Why would the United States be interested in buying Russia’s nuclear weapons? As spectacular as the military successes in Afghanistan and Iraq were, such intervention may not be the solution to all of America’s security problems. Would the United States be interested in kilotons for cash? Of course Washington would support this program if it led to a real solution of the problem of nonstrategic nuclear weapons proliferation. The United States prefers to work with other nations in order to fulfill its national objectives. In his cover letter published with the 2002 U.S. *National Security Strategy*, President Bush declared, “We will cooperate with other nations to deny, contain, and curtail our enemies’ efforts to acquire dangerous technologies.”<sup>23</sup> The theme of cooperation with friends, allies, and other like-minded states is woven throughout the strategy. Given the post-11 September 2001 flurry of forcible interventions in Afghanistan and Iraq and the challenging diplomacy surrounding North Korea, the cooperative elements of this strategy can be hard to see, but they are in place.

Given the sharp disagreement between Russia and the United States over the 2003 war in Iraq, restarting the dialogue will take extra effort. But if there was ever a topic ripe for discussion, one that might measurably improve the relationship, it is nonstrategic nuclear forces. Trading something the West has in abundance—wealth—for something Russia has in abundance—tactical nuclear

weapons—could focus the dialogue on a topic of keen interest to both parties: reducing a major potential source of nuclear proliferation.

Any issue so complex and involving such high stakes and so many obstacles begs for an answer. Are the costs of a solution high? Most certainly. But the costs of no solution—those of defending against a threat that could have been removed through cooperation—are exponentially higher. It would appear that both presidents have a vested interest in progress. Many groups concerned with proliferation and the improvement of U.S.-Russian relations are urging President Bush to take bold action on the nonstrategic nuclear issue. Resolution would dovetail with the message that came out of the Moscow Treaty, putting the Cold War farther in the past.

#### CAVEATS: FOCUS AND COUNTERPOINTS

Built-in incentives and empowerment of an executive committee as final arbiter, as discussed above, should help keep the process from being sidetracked by trivial issues and money from being diverted from its intended use. As a further safeguard, however, tight time constraints must be established at the outset. For example, the parties should agree in advance that if negotiations are not completed within a certain period, possibly a year, the entire process would stop, to be restarted only by mutual presidential agreement. This provision would be supported by the price penalties already mentioned, whereby if during implementation time gates are not met or performance lags, the price per kiloton drops or rises (depending on the cause of the delay) on a predetermined schedule. The time allowed for appeals of pricing and yield assessments and for arbitration of them by the executive committee should also be limited to ensure that matters do not languish. These incentives and penalties should help move the process along, reduce quibbling, and get these weapons secured and dismantled.

One other aspect of this process—indirect Western funding of Russian nuclear weapons production—needs to be controlled to avoid a serious unintended consequence. Russian nuclear weapons production lines remain open; Russia could sell old or obsolete weapons into the cash-for-kiloton market and simply replace them with newly produced weapons. The end result could be an upgrade in its nuclear forces, an upgrade that is funded in part by this nonproliferation effort and that evades the costs of stewardship for older NSNW. Two things must happen to avoid this possibility. One is already under way: on 12 March 2003 the United States and Russia signed an agreement to eliminate weapons-grade plutonium production by closing three Russian reactors.<sup>24</sup> As to the second, additional transparency measures need to be taken at remaining Russian reactors capable of producing weapons-grade nuclear

materials to assure NATO that production corresponds to the declared, reduced force. We offer no specific recommendations here, but the parties know what their responsibilities are. The data declarations and inventory mechanisms of this initiative may themselves be sufficient safeguards.

There may be a wide variety of other concerns with “cash for kilotons.” One obvious point is whether our proposal could be “sold” to the U.S. public. Even with bipartisan political support and a desire on behalf of the administration to pursue this type of initiative, the domestic appetite for funding it would be a serious question. The idea would probably not receive a warm reception among the more conservative members of the current congressional leadership. House and Senate Republican leaders are not greatly enamored with ideas that call for spending millions or billions of taxpayer dollars for such purposes. Congress has supported the cooperative threat reduction program with funding for nearly a decade, but many of its members have done so with trepidation. Members of the Bush administration also are reluctant to pursue CTR, sharing the concerns of their Capitol Hill colleagues.

One of the most stinging criticisms of CTR spending is that it allows Russia to shirk its commitments to dismantle and destroy weapons under treaties like START and the Chemical Weapons Convention while it diverts an inordinate percentage of its gross domestic product to continued production of Cold War–style weapons. Russia in fact needs to demonstrate more urgency and contribute more of its own treasure to the destruction of nuclear and chemical weapons. However, the potential good to be realized by the United States if NATO and Russia ultimately work through these issues is significant.

Deals and arrangements of the type we propose are by nature the lesser of two evils. Taking a pragmatic look at the current situation, it is apparent that Western interests heavily favor controlling the proliferation of nonstrategic nuclear weapons. Working with Russia to buy its nonstrategic nuclear weapons may be expensive and have a host of unsavory strings attached, but U.S. leaders must face the question whether it would be better to buy these things, if Russia will sell them, or to try to defend against one or two of them that fall into the wrong hands.

#### THE COST OF PAYING LATER

After the collapse of the Soviet Union, it became apparent that the issue of nonstrategic nuclear weapons was one of growing concern to the West but of little interest to Moscow. More than a decade later the Bush administration has not demonstrated much desire to address this issue—not, we suspect, because it considers these weapons irrelevant or unimportant but because the issue is extremely complex, with no clear win-win starting point, let alone solution. The

key players may also be suffering from “arms control fatigue,” and the general public, not fully understanding the NSNW issue, seems satisfied with the U.S.-Russia relationship. Nonetheless, the pressure to do something bold to secure these weapons and prevent their proliferation to terrorists is growing. Our suggestion to buy these weapons from Russia is certainly that.

Arms control is not the answer to the NSNW problem. Nor is cooperative threat reduction, in its current design. A market mechanism to purchase non-strategic nuclear weapons on a price-per-kiloton-yield basis may interest all parties as a way to achieve quickly their respective goals vis-à-vis these weapons. Since the emphasis in this market would be on the elimination of excess weapons, without undue meddling in respective security objectives, this approach should not directly assault national sovereignty or a state’s ability to assess its own security needs. The parties would be free to move on to the question of their remaining “useful” weapons, of course, and the baseline established could serve as a starting point.

No doubt this will be expensive and controversial in Washington as well as in Europe and Moscow. But the costs would produce multiple spin-off benefits: reducing risk, increasing security, and strengthening Russia’s economy and the bond between Russia and its NATO neighbors. If the American leadership faces a choice, so does Russia’s. It can continue the current process, laced as it is with distrust, ambiguity, and urgent proliferation risks, or it can agree to sell its old weapons for hard currency. Ultimately this is a “pay now or pay later” decision for all sides. The costs later may be many times higher than they are now.

Indeed, times change. Secretary of Defense Rumsfeld, early in the present administration, asked why Russia and the United States needed a strategic arms control treaty; the United States and Great Britain, he pointed out, have no such agreement. His point is well taken. The United States and Great Britain were once enemies; prior to World War I, in fact, there was little cooperation between them. However, over the course of two hundred years the ties between these two nations grew to the point where even when each possessed enough nuclear force to wreak havoc upon the other, there was never a time in the nuclear age when the friendship was questioned. By comparison, the United States has never fought a war with Russia (as it has twice with the United Kingdom).<sup>25</sup> In World War II, Washington and Moscow were allies (if reluctant ones). History suggests, then, that Russia and the United States could emerge as great friends, strong allies in the war on terror. Friends do not need to point nuclear weapons at one another. Nor need they be ambiguous about their nuclear intentions. The proposal we have outlined may prod the two nuclear powers to cooperate more closely to eliminate the last vestiges of their Cold War tactical nuclear arsenals.

## NOTES

1. In arms control, as in most negotiations, one of the very first steps in moving any issue forward is clearly defining what it is the parties seek to control. When it comes to the remaining nuclear forces of Russia and the United States, defining the "class" of weapons is difficult. For reasons discussed at length in this article, we settle upon calling the class of weapons we wish to control "nonstrategic nuclear weapons." To us, this defines a class of weapons that is neither offensive nor defensive, and can be short or medium range. Trying to parse the class further risks leaving one group or another of these weapons uncaptured and therefore defeats the object and purpose of any negotiations.
2. Rose Gottemoeller, foreword to *Controlling Non-Strategic Nuclear Weapons: Obstacles and Opportunities*, ed. Jeffrey A. Larsen and Kurt J. Klingenberg (Colorado Springs, Colo.: U.S. Air Force Institute for National Security Studies, 2001), p. xi.
3. See "Joint Statement on Parameters on Future Reductions in Nuclear Forces," Helsinki, Finland, 21 March 1997, appendix F in *Controlling Non-Strategic Nuclear Weapons*, ed. Larsen and Klingenberg, pp. 307–308; also available at [www.armscontrol.org/ACT/MARCH/js.html](http://www.armscontrol.org/ACT/MARCH/js.html).
4. Alistair Millar, "The Pressing Need for Tactical Nuclear Weapons Arms Control," *Arms Control Today* 32, no. 4 (May 2002), pp. 10–13.
5. See Andrea Gabbitas, "Non-Strategic Nuclear Weapons: Problems of Definition," and William Potter, "Practical Steps for Addressing the Problem of NSNW," in *Controlling Non-Strategic Nuclear Weapons*. According to published sources, in 2002 Russia had at least 1,200 warheads for surface-to-air missiles, 1,540 bombs and missile warheads for aircraft, and 640 naval warheads (for aircraft, cruise missiles, and antisubmarine torpedoes or missiles). See "Russian Nuclear Forces 2002," *Bulletin of the Atomic Scientists* 58, no. 4 (July/August 2002), pp. 71–73.
6. "NRDC Nuclear Notebook: U.S. Nuclear Forces 2003," *Bulletin of the Atomic Scientists* 59, no. 3 (May/June 2003), pp. 73–76. According to this source the United States maintains 320 warheads for Tomahawk sea-launched cruise missiles and 840 B-61 bomb warheads (mods 3, 4, and 10).
7. William Potter, "Addressing the Problem of NSNW," in *Controlling Non-Strategic Nuclear Weapons*, appendix, tables 1 and 2, entries for "Air Defense Weapons." Also see "Russia's Nuclear Forces 2002."
8. Gen. Larry Welch, USAF (Ret.), chairman of the Defense Science Board Task Force on Nuclear Deterrence, memorandum, recommendation 6, 23 July 1998, transmitting the report of the task force, dated October 1998, to the chairman of the Defense Science Board, Mr. Craig Fields; and Mr. Field's subsequent undated memorandum endorsing the report to the Under Secretary of Defense for Acquisition and Technology.
9. "Text of the Joint Declaration by President George W. Bush and President Vladimir V. Putin on the New Strategic Relationship Between the United States of America and the Russian Federation," 24 May 2002, available at [www.fas.org/nuke/control/sort/joint-decl.html](http://www.fas.org/nuke/control/sort/joint-decl.html).
10. United Press International, "Russian Nuclear Dangers Studied," as reported in *Johnson's Russia List* 6272, article 6, published by the Center for Defense Information, 25 May 2002, available at [www.cdi.org/russia/johnson/6272.htm](http://www.cdi.org/russia/johnson/6272.htm).
11. "Transcript of Testimony as Delivered by Secretary of Defense Donald H. Rumsfeld," Washington, D.C., 17 July 2002, available at [www.defenselink.mil/speeches/2002/s20020717-secdef1.html](http://www.defenselink.mil/speeches/2002/s20020717-secdef1.html). Mr. Rumsfeld said: "Let me just conclude by saying that I believe that all sorts of possibilities with the Russians that come from this—I had talked about the tactical nuclear weapons. And you are probably right, this doesn't cover all of that. But it is something we probably ought to talk about. Secretary Powell indicated as much, that he'd like to talk about that. So would all of our European friends. . . . They're pretty close to those tactical weapons."
12. Yuri Golotyuk, "America Has No Say in This," *Vremya novosti*, 23 April 2002, as reported in *Johnson's Russia List*, no. 6203, 23 April 2002, item 7, at [www.cdi.org/russia/johnson/default.cfm](http://www.cdi.org/russia/johnson/default.cfm).



13. For example, see NATO Press Communiqué M-NAC-2(2000)121, "Report on Options for Confidence Building Measures, Verification, Arms Control, and Disarmament," December 2000.
14. See Senator Lugar's prioritized list at [lugar.senate.gov/nunn\\_lugar\\_program.html](http://lugar.senate.gov/nunn_lugar_program.html).
15. Mathew Bunn, Anthony Wier, and John P. Holdren, *Controlling Nuclear Warheads and Materials: A Report Card and Action Plan*, Project on Managing the Atom (Cambridge, Mass.: Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University, March 2003).
16. John Cappello, Gwendolyn M. Hall, and Steven Lambert, *Tactical Nuclear Weapons: Debunking the Mythology*, INSS Occasional Paper 46 (Colorado Springs, Colo.: U.S. Air Force Institute for National Security Studies, August 2002).
17. "Atoms for Peace," speech by President Dwight D. Eisenhower to the UN General Assembly, 8 December 1953, available at [www.iaea.org/About/history\\_speech.html](http://www.iaea.org/About/history_speech.html). For a recent variation on this approach, see Stansfield Turner, "The Dilemma of Nuclear Weapons in the Twenty First Century," *Naval War College Review* 54, no. 2 (Spring 2001), pp. 13–23.
18. *Statute of the International Atomic Energy Agency*, article III, part A, paras. 1 and 2; part B, para. 2; and part C; available at [www.iaea.org/About/statute.html](http://www.iaea.org/About/statute.html).
19. David Fischer, *History of the International Atomic Energy Agency: The First Forty Years* (Vienna: IAEA Division of Publications, September 1997), p. 10. The end of the Cold War has revived the idea of placing military stocks of fissile materials, including material from dismantled nuclear weapons, under the IAEA's surveillance, thus creating confidence that it will not revert to military use.
20. *Fact Sheet Provided to the Second Session of the Preparatory Committee for the 2005 NPT Review Conference*, Geneva, Switzerland, 1 May 2003, available at [www.state.gov/t/np/rls/fs/20288.htm](http://www.state.gov/t/np/rls/fs/20288.htm).
21. One Russian analyst who agrees that his country would likely participate in such a multinational endeavor is Nikolai Sokov, a former member of the Soviet Ministry of Foreign Affairs and currently at the Monterey Institute of International Studies. In November 2003 he told an SAIC interviewer, "The Russian military . . . wants to get rid of excess stockpiles and would appreciate money for that purpose." He suggested that "proposals should be framed in CTR terms—assistance in doing things that are in the interest of Russia and that the Russians intended to do anyway." Author's personal notes, 10 November 2003.
22. James Fuller, "Debt for Nonproliferation: The Next Step in Threat Reduction," *Arms Control Today* 32, no. 1 (January/February 2002), pp. 22–26. In 1984 the World Wildlife Fund conceived of "debt for nature swaps," in which national debts were forgiven by some nations in return for debtor nations' dedicating some portion of their own currencies for environmental projects.
23. The White House, *National Security Strategy of the United States*, September 2002, available at [www.whitehouse.gov/nsc/nss.html](http://www.whitehouse.gov/nsc/nss.html).
24. "Russia and US Sign Reactor Shutdown Deal," *Rusnet*, 13 March 2003, at [www.rusnet.nl/news/2003/03/13/currentaffairs04.shtml](http://www.rusnet.nl/news/2003/03/13/currentaffairs04.shtml).
25. The 1919–20 American military incursion into Siberia notwithstanding.